

## STAGGERED HOURS

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Within the last year or two there has been much discussion of staggering of hours as an aid to traffic and transit movement and rubber conservation. Many persons have been led to believe that this is a new technique. It isn't. Staggering of hours has been used for many years for many purposes.

Industry has used this principle since the first time that two or more shifts operated in one factory. By it they are able to use the same factory space and the same machines for two or more workers instead of one. Railroads have used this principle in apportioning the use of single-track lines for trains. Schools and colleges have used it so that one teacher may teach several groups of students. Housewives in some apartment buildings have used it when one family used the laundry tubs on Monday, another on Tuesday, and another on Wednesday. Every well-regulated household uses this principle every morning in apportioning time for each member of the family to use the single bathroom.

One broad definition of staggered hours might be as follows: An allocation of time for the use of any limited thing or service so that more persons may conveniently participate in its use.

With this definition in mind, let us approach our so-called new problem of staggering hours for traffic and transit control. In our present emergency we are trying to spread our transportation facilities to accommodate more persons and yet conserve vital materials. In the good old days if we needed more transportation units, we bought them. Now, for the duration, we must get along with what we have, or even less than we now have. Depreciation, obsolescence, and accidents are continually subtracting from our transportation resources, so that our supply is daily becoming less instead of more.

For transportation purposes there are only two reasons for staggering hours: (1) To relieve congestion and delay to street traffic. (2) To afford a more efficient use of the limited number of mass transportation units. Except in rare cases street traffic congestion is not a problem in Indiana cities now. Mass transit use is a critical problem *now* in many Indiana cities.

Increased employment in areas served by mass transport and decreased use of private passenger cars, due to tire and gasoline rationing, and adverse weather conditions have thrown unprecedented loads on transit lines. In some cities the increase in daily passenger volume is as much as 50%, and much of this increase is confined to peak hours. It is not uncommon to find street cars and buses carrying many more

persons standing than there are seated. Surveys in September in Gary showed street cars with a seating capacity of 44 carrying 120 passengers during the evening peak movement. Conditions in Indianapolis and other cities are similar. Newspapers, public officials, and private citizens complain that transit lines cannot carry the load. But they can carry the load if loads are properly distributed. A department store cannot care for all of its patrons in an hour each day. Neither can a doctor, lawyer, judge—nor can the home bathroom. But when the demand is properly distributed, all can be served conveniently.

In considering staggered hours to aid mass transport we are faced with certain well-defined conditions:

1. A fixed number of vehicles is available.
2. These vehicles have a maximum capacity.
3. It takes a certain amount of time for a unit to make a round trip.

These are conditions we can do very little about.

4. At certain times of the day available units are unable to meet the demand for service.
5. At other times (including much of the day) only about half the units are operating and then at only about half their capacity.

These are conditions which we can do something about. By careful planning and mutual co-operation we may all ride in comfort and safety, but we must change our daily habits in order to do so. This changing of habit is perhaps the hardest thing we mortals are called upon to do.

### USE OF FACTUAL DATA

Any well-considered plan for staggering hours in a city will be based on factual data which show:

1. The present street-traffic load and its distribution.
2. The present mass-transit load and its distribution.
3. The number and capacity of available transit units.
4. The routes covered by these units.
5. The time required to make a trip.
6. The number of persons requiring service.
7. The place of residence and place of work of the persons to be served.
8. Their time of starting and quitting work.

With these facts established, it is merely a matter of adjusting the demand to the supply—bearing in mind certain other established facts, such as these:

- (a) To be effective, the staggering must be wide enough to enable transit units to make more trips during peak hours. This may require 15 to 20 minutes in small cities and as much as two

hours in larger ones. It is purely a matter of time required to make round trips.

(b) Peaks usually appear 15 to 30 minutes before the time of starting work and a similar time after quitting work.

(c) Care must be observed in changing established patterns so that peak loads from separate industries or separate sections of a city do not converge at some point at the same time.

(d) Since the over-all result desired is to maintain or increase war-production schedules, sympathetic consideration must be given to valid objections raised by plant managers. We must not throw production out of balance merely to preserve our own ideas of an ideal staggered-hours plan. Often changes suggested by plant managers will improve the original plans or minor adjustments may be made which will relieve them of tremendous difficulties.

Persons considering staggered-hours plans are always faced with these four questions: Why stagger hours? When to stagger hours? Where to stagger hours? How to stagger hours? The answers are:

*Why?* In order to secure a more efficient use of existing mass transportation units.

*When?* Whenever the demand for service has reached such proportions that during certain peak periods transit units are unable to care for their patrons, conveniently, safely, and comfortably.

*Where?* In factories, stores, offices, and schools in proportion to the amount of congestion caused by their existing schedules.

*How?* By the use of factual surveys broad enough to establish existing conditions and by carefully weighing of these facts one against the other until a balanced program results in which are caused the greatest convenience and the least disturbance of habit to the greatest number of persons whose travel is essential.

No such plan should ever be considered final. Times and conditions change, and programs must be correspondingly adjusted. Some of our cities are now suffering from lack of staggering of hours while their transportation authorities complacently point to the fact that they have a staggered-hours program. They have completely missed the point that no plan is effective unless it is kept adjusted to changed conditions. New industries must be fitted into it, transit units wear out or are destroyed and other conditions change. The answer tomorrow is not the same as today. You cannot say, "This is it," and stop there.

### SELLING THE PLAN

After having determined the proper plan, the job is not finished. There remains the larger task of selling it to the interested people. Since there is no means of compelling anyone to stagger hours, the only force you have is in your powers of persuasion. You will find many who object to any change. These objections may be political, financial, or personal. All will insist that all they want is what is right. However, there are usually widely separated opinions on what is right. The

success of your staggered-hours program depends on your knowing that it is right and your ability to convince others of this fact.

School officials object to changes in school hours.

Business men are afraid they will lose business if their hours are changed.

Factories fear labor trouble or disorganization if their schedules are changed.

Housewives dislike changed meal-hours resulting from staggered hours.

The man in the street dislikes any change from established habits.

These are all potent forces and cannot be defeated. They must be convinced.

Many staggered-hours programs fail from lack of proper publicity. It is not enough to tell people in the columns of newspapers of the changes and when they become effective. Spend days in preparing your story of why it is necessary and how it works to accomplish the desired end. Speakers should appear before every organization in the city to explain the plan in detail.

While not actually a staggering of hours, certain other things are logically a part of such a plan. These include:

- (a) Carefully worked out selective-stops programs to eliminate delay.
- (b) A campaign to get shoppers to ride during off-peak hours.
- (c) Use of express buses and the turn-back system.
- (d) Elimination of bottlenecks which cause delays.
- (e) Rerouting of buses.
- (f) Confining use of school tokens to certain hours of the day.
- (g) Re-timing and elimination of traffic signals.

I realize I have not told all there is to know about staggered hours. I hope, however, I have made these points clear:

Staggered hours are neither new nor mysterious.

Staggered-hours plans must be tailored to fit the individual city.

Staggered-hours programs must be readjusted to keep abreast of the times.

Staggered-hours programs will not sell themselves.

The present crisis in city transportation can be met by proper staggering of hours. It is worth all the effort required to get it done.